

Science Discussion Group – 6th August 2008 – “Life on Mars”.



Becka Finesmith: Hi and welcome the the first in a series of Science Discussions. In a moment, I'll give you a brief overview of tonights discussion but first, just a word about how it will work.

[12:05] Nexie Raviprakash: lol



[12:05] Becka Finesmith: No - not that Life on Mars!

[12:05] Nexie Raviprakash: my heroes

[12:05] Becka Finesmith: The discussion will be text based only. This is to make it as accessible to you as possible. Not everyone has voice or likes to use it.

[12:05] Groovy Magic: lol

[12:06] Becka Finesmith: All I've done is given you a place to meet and a topic to discuss. The rest is up to you. During the evening I will pose three questions. I'm hoping we can discuss each for around 20 minutes. No matter what your background, jump in with some ideas. None of us are experts here.

[12:06] Daisy Greggan: Thank goodness

[12:06] Nexie Raviprakash: ok

[12:06] Becka Finesmith: I will be putting up a variety of things on the board in front of you so make sure you can see it. If they don't change fast enough, let me know.

[12:07] Becka Finesmith: Some of the introduction is quite long so it might be worth opening a local chat window otherwise it will dissapear before you have a chance to read it (Click on “Local Chat” at the bottom left of your screen).

[12:07] Becka Finesmith: There is a display at the other end of the room which I hope you will take a little time to look at. It will be here until Friday. Following on from the discussion we will be going to the International Space Museum. You are free to join us, stay here or leave as you see fit.

[12:07] Nexie Raviprakash: ok

[12:07] Eshala Tabacznyk: cool

[12:07] Lambchop Magic: great

[12:08] Becka Finesmith: So, before the first question, some background to the topic – “Life on Mars”.



[12:08] Becka Finesmith: The Viking lander landed on the surface of Mars in 1976 with the goal of detecting life on Mars. Three experiments were carried out each with a corresponding “Control” experiment. The experiments were designed to detect various gases and Carbon which would be indicators of life. To make sure the samples were not contaminated from Earth, the control experiments heat sterilised a further sample to make sure no life was found, i.e the result for the heat

sterilised samples should be “none” for all. The results are now displayed on the board :

	response for sample	response for heat-sterilized control
GEX	oxygen emitted	oxygen emitted
LR	labeled gas emitted	none
PR	carbon detected	carbon detected

[12:09] Becka Finesmith: The details of the experiments are not important for this discussion but the GEX and PR experiments produced results for both samples. It was concluded that this indicated that non-biological processes were at work (ie, not indicative of life).

[12:09] Becka Finesmith: The LR experiment moistened a 0.5-cc sample of soil with 1 cc of a nutrient consisting of distilled water and organic compounds. The organic compounds had been labeled with radioactive carbon-14. After moistening, the sample would be allowed to incubate for at least 10 days, and any microorganisms would hopefully consume the nutrient and give off gases containing the carbon-14, which would then be detected. (Terrestrial organisms would give off CO₂, carbon monoxide (CO), or methane (CH₄).)

[12:10] Becka Finesmith: The result of the LR experiment seemed initially to conclude that Life was indeed present on Mars. Later analysis showed that non-biological processes could also account for the result so the experiment was considered inconclusive.



[12:10] Becka Finesmith: Since then, the only mission to Mars that was scheduled to detect life was Beagle 2. Unfortunately, although Beagle 2 made it to Mars, contact was lost with the lander in February 2004.

[12:10] Martin Pattle looks embarrassed at this OU flop

[12:10] Becka Finesmith: OOps

[12:10] Robert Daguerre: lol

[12:11] Hennamono Morpork: Don't we all

[12:11] Jen Dratman: pity tthey didn't do the analuysis before seinding the experiment

[12:11] You: very sad



[12:11] Becka Finesmith: Currently, the Pheonix Lander is on the surface of Mars but it's primary objective is not to search for life or past life but to test the polar climate and the mineral and water content of the surface and subsurface.

[12:11] Eshala Tabacznyk: lol

[12:11] Leornian Naidoo is Offline

[12:11] Daisy Greggans: Tell me about it 1



[12:11] Becka Finesmith: The next mission to search for life will be ExoMars due to launch in 2013 and land a year later.

Is life likely to exist/have existed on Mars and what were it's origins?

[12:12] Becka Finesmith: So that's a little background - The first question is :

[12:12] Becka Finesmith: IS life likely to exist/have existed on Mars and what where it's origins??

[12:13] Hennamono Morpork: Life requires water and Mars lacks the air pressure for liquid water so I doubt it

[12:13] Nexie Raviprakash: yes

[12:13] Becka Finesmith: Things to think about would be how could we tell if life started on Mars, was transported to Mars from Earth (OR visa versa) or came from somewhere else?

[12:13] DaveE Heliosense: Maybe Beagle 2 knows but isn't telling!

[12:13] Martin Pattle: Although there is suspicion that Mars had liquid oceans at one time

[12:14] You: I thought there were signs that there used to be liquid water on mars

[12:14] Nexie Raviprakash: a different form of life

[12:14] Lambchop Magic: They believe that once Mars might have had an atmosphere therefore microscopic life could have originated

[12:14] Sian Andel: Or sub-surface water?

[12:14] Hennamono Morpork: When Mars had water it was outside the habitable zone

[12:14] Becka Finesmith: Perhaps there is enough pressure sub surface

[12:14] You: Habitable for what?

[12:14] Nexie Raviprakash: bacteria

[12:14] Jen Dratman: One of Larry Niven's novels talks about moving saturnian ice to impact mars surface to generate water

[12:15] Darius Foss: Well I think that the amount of water ice on Mars seems to suggest that there is/was water

[12:15] Martin Pattle: or maybe proto-bacteria and certain chemical forms

[12:15] Robert Daguerre: Henn- for it to have water, it would have had to have been in the habitable zone, as that zone is pretty much defined by being able to support liquid water

[12:15] Kickaha Wolfenhaut: It's dangerous to make assumptions about the prerequisites for life.

[12:15] DaveE Heliosense: Life seems to have started very quickly on Earth, so if there were oceans on Mars it seems reasonable that there would have been primitive life too.

[12:15] Lambchop Magic: Yes Robert but we are making assumptions that all life must be as we have it on Earth

[12:16] Martin Pattle: err, I thought it took a billion years for life to start on earth?

[12:16] Darius Foss: It may be liquid below the surface perhaps lots of very small amounts

[12:16] Nexie Raviprakash: you may not need H₂O for life

[12:16] Robert Daguerre: It just depends how long there was Oceans on Mars I suppose.

[12:16] Hennamono Morpork: But the ice sublimates so no solvent for chemical processes

[12:16] Jen Dratman: how about silicon based life

[12:16] Becka Finesmith: But sub Surface Hennamoo?

[12:17] Robert Daguerre: Lamb - not making any such assumptions, and conditions would have had to have at least been vaguely similar, at least in terms of temp and pressure to have liquid water.

[12:17] Kickaha Wolfenhaut: What temperature was the control sample heated to on Viking Becka?

[12:17] Lambchop Magic: I thought that life in the meteorite had now been disproved

[12:17] Martin Pattle: Is there still a theory that some life-supporting chemicals arrived on the earth from meteorites?

[12:17] Robert Daguerre: Henn - the atmosphere used to be thick enough on Mars so that water did not sublimate.

[12:17] Hennamono Morpork: Not H₂O necessarily but some liquid solvent is required for all complex chemistry

[12:17] Kickaha Wolfenhaut: All KNOWN.

[12:17] Daisy Greggan: why bother with the exotic when there could be "ordinary" microbial life forms

[12:17] Nexie Raviprakash: think so Martin but theories are theoretical

[12:17] DaveE Heliosense: There seems to have been life at 3.8 billion years ago on Earth, and no reason to think it was not there somewhat earlier.

[12:18] Becka Finesmith: Not sure Kick - Just trying to find out

[12:18] Kickaha Wolfenhaut: ty

[12:18] Nexie Raviprakash: there is life on earth we don't know about yet

[12:18] Robert Daguerre: Martin - yes panspermia. I think it's totally possible within the solar system, but find it hard to believe that life would be able to survive the conditions out there for the amount of time it would take to travel between one star and the next.

[12:18] Becka Finesmith: SO how about it not starting on Mars?

[12:18] Becka Finesmith: or Earth?

[12:18] Darius Foss: Do you mean like the ones in Utah or in hydrothermal vents Daisy?

[12:18] Kickaha Wolfenhaut: Found it Becka. 160 degrees C.

[12:18] Becka Finesmith: Thanks Kick

[12:19] Daisy Greggan: how about Venus and a wee bit of panspermia? *laughs*

[12:19] Kickaha Wolfenhaut: And there's evidence for earthbound extremophiles surviving at 175 degrees C. So assumptions are dangerous.

[12:19] Becka Finesmith: So other locations have been suggested outside of Mars within our own Solar System that are less hospitable? what about those locations?

[12:20] Darius Foss: Yes I think it's just a matter of time until we find microbial life or at least the traces of it

[12:20] Robert Daguerre: If life can survive in Luton, I can believe it surviving pretty much anywhere :D

[12:20] Hennamono Morpork: Extremophiles seem to all have evolved from lifeforms that required less extreme environments

[12:20] You: I'd like to know what we are defining as 'life'

[12:20] Kickaha Wolfenhaut: lol Rob

[12:20] Kickaha Wolfenhaut: But DOESit?

[12:20] Becka Finesmith: I'm not sure that evidence was available when the Viking Mission landed in 1973 so that could be true

[12:20] DaveE Heliosense: Panspermoia is a resonable idea, but I think we can do without it!

[12:20] Kickaha Wolfenhaut: Exactly Becka.

[12:20] Kickaha Wolfenhaut: Exactly.

[12:20] Becka Finesmith: Good question Amalthea

[12:20] Becka Finesmith: What DO we define as life?

[12:20] You: well that shut everyone up!

[12:20] Daisy Greggan: A metoric strike just might have transported life from Earth to Mars

[12:20] Jen Dratman: Life has to beunpredictable. dead things are predictable

[12:21] Becka Finesmith: lol

[12:21] Jen Dratman: but a car is more alive than 1 tonne of iron ore

[12:21] Daisy Greggan: Or even in cometary material

[12:21] Hennamono Morpork: Quatum phenomena are unpredictable but not alive

[12:21] Groovy Magic is Offline

[12:21] Martin Pattle: actually, one of the big problems of the origin of life is to make it predictaable, thus allowing progeny

[12:21] Fr33d Landar is Offline

[12:22] Becka Finesmith: So we do not think that Life could have begun elsewhere and been transported here?

[12:22] Becka Finesmith: Or to Mars

[12:22] Becka Finesmith: (leaving he debate of what life is to one side for a momnet

[12:22] Hennamono Morpork: More likely any Martian life got there from here

[12:23] Nexie Raviprakash: life forms can duplicate

[12:23] You: Perhaps if we had a lighter atmosphere in the past

[12:23] Robert Daguerre: I think there are many possible places it could have started in our solar system - may be it has started in several places, or may be one and then spread to other places...or may be we are alone!

[12:23] Darius Foss: Strain 121 gains energy by reducing Iron compounds, is there not plenty of that on Mars

[12:23] You: or wouldn't it have got burned up?

[12:23] Becka Finesmith: I guess we could prove or disprove this based on DNA presence or absence?

[12:23] Hennamono Morpork: Does life require DNA?

[12:23] Kickaha Wolfenhaut: RNA?

[12:23] Nexie Raviprakash: avs have dna

[12:23] Becka Finesmith: indeed

[12:24] Daisy Greggan: Oh the UV on a lot of Mars destroys DNA

[12:24] Becka Finesmith: Are we looking for the right "Stuff"

[12:24] Robert Daguerre: Life as we know it does, but I would have thought it possible to come up with something different that does a similar job to DNA

[12:24] Martin Pattle: Hi UV was also a bproblem on earth in the early days, wasn;t it?

[12:24] Hennamono Morpork: For life I'd look for liquids - Europa?

[12:24] Becka Finesmith: indeed

[12:24] Lambchop Magic: in primitive life it was RNA not DNa

[12:24] Kickaha Wolfenhaut: Only for those that didn't survive selection.

[12:24] Lambchop Magic: Yes they believe Europa has a liquid water ocean under the ice

[12:24] Becka Finesmith: BUt isn't Europa outside the "Habitable zone"?

[12:25] Martin Pattle: Well, it snot just RNA, its the whole protein manufaturing system in mitochondria you need to build

[12:25] Nexie Raviprakash: its possible life was put there on mars and became extinct

[12:25] Jen Dratman: dna is genotype - ist the genot/ phenno distinction crucial.

[12:25] Jen Dratman: too laggy

[12:25] You: If I say 'God did it' will I get eggs thrown at me?

[12:25] Hennamono Morpork: Outside the sun's HZ but perhaps volcanism would provide the heat?

[12:25] Kickaha Wolfenhaut: A goldfish could be forgiven for assuming its bowl was the habitable zone. We cannot be so lenient with ourselves if we claim higher intelligence,

[12:25] Becka Finesmith: If I only had an egg

[12:25] Amalthea Zessinthal hangs head in shame

[12:25] Eshala Tabacznyk: No Amal - I havent any eggs in my inv - yet!

[12:26] Martin Pattle: we'd want to know how, Amalthea, just as Newton did

[12:26] Robert Daguerre: Becka - Europa may be warm enough due to tidal heating from Jupiter

[12:26] Jen Dratman: Flying pag monstere

[12:26] Becka Finesmith: Of course, But it's still not in the Habitable zone. My point being other processes we don't understand might be at work

[12:26] Nexie Raviprakash: life exists everywhere on earth

[12:26] Robert Daguerre: Eurpopa has an eccentric orbit, and Jupiter pulls on it different amounts at diff points - this squeezes and stretches the moon creating which provides a lot of energy.

[12:27] Nexie Raviprakash: its just we cant see it

[12:27] Robert Daguerre: Yeah, I don't think you can discount life outside the hbitable zone, far from it.

[12:27] Kickaha Wolfenhaut: So what does "habitable " mean then? lol

[12:27] Martin Pattle: Nexie, we could do with knowing how life *started* on earth, rather than how well it has spread here, nmaybe

[12:28] Becka Finesmith: So can we come to any conclusions about the possibility of Life on Mars now or ever?

[12:28] Lambchop Magic: I thought the habitable zone is where humans could survive, with the right conditions

[12:28] You: OK, so we need to define 'life' and 'habitable' now

[12:28] Hennamono Morpork: The HZ is more the zone life is deemed likely not the zone outside which it is impossible

[12:28] Becka Finesmith: lol

[12:28] Becka Finesmith: OK

[12:28] Martin Pattle: Oh, yes, "The Habitable Zone" is a semi-technical term for were (usually in terms of orbital location) a planet is exactly warm enough to support life

[12:28] Nexie Raviprakash: because it was certain ingrediants martn

[12:28] Kickaha Wolfenhaut: So it's a bastardisation of an English word then.

Understood.

[12:28] Robert Daguerre: Becka - I think it's totally possible, very likely, but we can't really say either way until we have more evidence. Hopefully exomars will provide us with it.

[12:29] Nexie Raviprakash: maby wel nevr know in our life time

[12:29] Becka Finesmith: ok - Life - Metabolism and reproduction

[12:29] Daisy Greggan: But that's so Earth-Centric if there is such a word I hope we are in for a surprize

[12:29] Kickaha Wolfenhaut: If I had to bet my house and family, I'd go with a Yes.

[12:29] Martin Pattle: Yes Nexie, if only we were sure what they were

[12:29] Sian Andel: I think it highly likely that some form of micro life - current or fossil - will be found on Mars

[12:30] Hennamono Morpork: Viruses don't have independent metabolism

[12:30] Becka Finesmith: Are they life?

[12:30] Lambchop Magic: I agree woth Sian

[12:30] Nexie Raviprakash: yes

[12:30] Jen Dratman: sorry cant follow this, too laggy - see you later

[12:30] Nexie Raviprakash: ok bye

[12:30] Lambchop Magic: bye Jen

[12:30] You: bye Jen

[12:30] Martin Pattle: My money is on not finding life on mars

[12:30] Jayne Fiertze: life takes organic compounds from the environment, changes them and puts them back, eventually

[12:30] Robert Daguerre: tc Jen.

[12:30] Becka Finesmith: By eJen
 [12:30] Eshala Tabacznyk: bye Jen
 [12:30] Hennamono Morpork: I think there is a window for life to have started, yes
 [12:30] Becka Finesmith: Is the lag bad for everyone?
 [12:30] Plockton Scaggs: see ya jen
 [12:30] Kickaha Wolfenhaut: I'm fine, thanks.
 [12:30] Lambchop Magic: not for me
 [12:30] Robert Daguerre: Fine here.
 [12:30] You: How much of it is because we want to believe we are not alone?
 [12:30] Darius Foss: Me too Kichaha I wold think it impossible thar there is not or was ever "life" on Mars , we just need to send someone with a shovel and a microscope
 [12:31] Eshala Tabacznyk: no I'm perferctly fine
 [12:31] You: no, no lag
 [12:31] Nexie Raviprakash: science is about getting lots of nos
 [12:31] Daisy Greggan: It's Ok
 [12:31] Kickaha Wolfenhaut: How much of it is a fear that we ain't?
 [12:31] Hennamono Morpork: Not a lot of lag here
 [12:31] You: lol kick
 [12:31] Sian Andel: i'm ok, not too bad and gives me time to read!
 [12:31] Becka Finesmith: Good. Ok - let's move to the next question
 [12:31] Nexie Raviprakash: shhh
 [12:31] Robert Daguerre: Well for me, I find it totally improbable, almost impossible, that there is not other life in the universe. Whether it exists elsewhere in our system or not, who knows.

**What are the implications of
 finding life or evidence of past
 life on Mars?**

[12:31] Becka Finesmith: What are the
 implications of finding life or evidence of
 past life on Mars?

[12:31] Daisy Greggan: Not want to believe , there is no place in science for 2sky faries" or irrational beliefs
 [12:32] Plockton Scaggs: its the understnading i'm struggling with, not the reading!
 [12:32] Kickaha Wolfenhaut: In fact I wouldn't put it past the "scientific" community to start adjusting its definitions of life if doing so would allow them to dismiss some future piece of evidence.
 [12:32] Deanna Minotaur: Well until it waves its tentacles at me I am in the no life camp
 <g>
 [12:32] Hennamono Morpork: Drake equation? Of course there is life
 [12:32] Sian Andel: lol - both for me!

[12:32] Robert Daguerre: Implications: All the religious texts will get reinterpreted again. lol.

[12:32] Eshala Tabacnyk: me too Plockton - fascinativ stuff just a bit over my head

[12:32] Robert Daguerre: Sorry :D

[12:32] Scathach Rhiadra: If life existed on Mars and became extinct too long ago, say a billion years ago, we may never find traces of it

[12:32] Nexie Raviprakash: i know of phd students in physics who have made up results

[12:32] Becka Finesmith: Eeepp

[12:32] Eshala Tabacnyk: I'm enjoying reading the discussion though

[12:33] Becka Finesmith: Give me their anems now ;)

[12:33] Martin Pattle: I don;t think there is an invetment in the scientific community fcor a result either way

[12:33] Becka Finesmith: names

[12:33] You: I think we will have trouble finding life on Mars until we can physically go there and set up camp

[12:33] Lambchop Magic: I think that it is improbable that we will find evidence of life on Mars for a very long time

[12:33] Robert Daguerre: I agree, Martin.

[12:33] Sian Anel: we have traces of earth life from 3.8 billion years ago, we need to send humans to mars, of course then they would contaminate it with bacteria!

[12:33] Nexie Raviprakash: i explained to them that a 10 failed researches are still of benefit

[12:33] Martin Pattle: Anyway, for Becka's question, if Life DID get discovered on Mars, it would be evidence for how easy it is for life to be created in chemical environments on planets

[12:33] Hennamono Morpork: I think we'll have to go furtherthan Mars for life

[12:33] Basic Chair: Right click me and choose 'Sit Here' to sit down

[12:33] Daisy Greggan: The implications are that there is nothing out of the ordinary, it is impossible to think that Earth is unique

[12:34] Nexie Raviprakash: no martn

[12:34] You: I agree with Henn

[12:34] Becka Finesmith: So - if we found life on Mars or even elsewhere (Apart from

[12:34] Daisy Greggan: Try Glasgow 8laughs*

[12:34] Becka Finesmith: lol

[12:34] You: Would it mean anything at all?

[12:34] Nexie Raviprakash: wed have to get more vaccines

[12:34] Martin Pattle: wb Groovy

[12:34] Aseret Quintessa: Possible colonisation at some point

[12:34] Groovy Magic: thx martin

[12:34] Eshala Tabacnyk: martian flu epidemic?

[12:34] Hennamono Morpork: I don't think there is much implication either way - unless you believe Earth is a unique creation

[12:34] Robert Daguerre: It wouldn't mean anything to me, but it would to billions! It really depends on each individual's world view.

[12:34] Becka Finesmith: It would take our feeling of specialty waya?

[12:34] Kickaha Wolfenhaut: If we find conclusive evidence of life on Mars, it will compel us to accept that the Universe is likely teeming with life.

[12:35] Lambchop Magic: Invasion?

[12:35] Nexie Raviprakash: we'd have to be very careful

[12:35] Sian Anel: we would have to be very careful what we did on Mars or we would destroy any life we found

[12:35] Martin Pattle: I am with Kick there

[12:35] You: I already accept that the Universe is teeming with life

[12:35] Nexie Raviprakash: it could destroy u

[12:35] Becka Finesmith: So perhaps intelligent life is a whole different ball game?

[12:35] Kickaha Wolfenhaut: teeming sorry

[12:35] Kickaha Wolfenhaut: lol

[12:35] Lambchop Magic: we are bound to destroy anything we find, we are doing that very well here on Earth

[12:35] Kickaha Wolfenhaut: One which perhaps we are ill equipped to play

[12:35] Becka Finesmith: Analthea - Can you expand on that?

[12:35] Aseret Quintessa: I agree with Lamb

[12:35] Martin Pattle: Yes, evolution of intelligence is definitely a new ball-game...

[12:36] Hennamono Morpork: Yes I think life is common - but probably not common in a given solar system

[12:36] Nexie Raviprakash: could be an undetectable life form that infects us

[12:36] Robert Daguerre: Yup.

[12:36] Darius Foss: no because if you don't believe in some divine something then we expect life to form where-ever it can in the universe so why not on some of our planets or moons

[12:36] You: It just doesn't seem possible that, unless you believe in god, there wouldn't be life anywhere else

[12:36] Hennamono Morpork: Intelligence - encountering that would have implications

[12:36] You: Why would it only have happened here?

[12:37] Robert Daguerre: I agree Amalthea, the numbers are just too vast for it to be any other way...IMO :D

[12:37] Kickaha Wolfenhaut: I don't think a belief in God precludes the belief in a lively Universe.

[12:37] Nexie Raviprakash: random

[12:37] Nexie Raviprakash: 1 off

[12:37] Becka Finesmith: good point - Apart from Liquid water, an atmosphere sufficient warmth, why are we so special?

[12:37] Martin Pattle: It would be pretty extraordinary if Earth was the only planet in the universe capable of supporting life

[12:37] Minnie Atlass: earth will still be here long after mankind is extinct

[12:37] Nexie Raviprakash: but there's other random asteroids, stars etc

[12:37] Lambchop Magic: I agree with Minnie

[12:37] Hennamono Morpork: But our first encounter with nonhuman intelligence may well be one we build ourselves

[12:37] Minnie Atlass: there will be another life form

[12:37] Nexie Raviprakash: not when the sun dies

[12:37] You: I just meant that if you believe in God you could believe we are the only ones, not that you would believe it

[12:38] Becka Finesmith: Ooh - Interesting - You believe in the Singularity?

[12:38] Nexie Raviprakash: maby we are the aliens

[12:38] Martin Pattle: We have trouble with supposedly intelligent terrestrial life (e.g. Dolphins), so extra-terrestrials will be problematic....

[12:38] Kickaha Wolfenhaut: Agreed Martin.

[12:38] Lambchop Magic: very true Martin

[12:38] Becka Finesmith: To another non terrestrial intelligence - we are NExie

[12:38] Daisy Gregg: Right , but only because we can't go anywhere extra-solar yet

[12:38] Hennamono Morpork: Intelligence is an emergent property of complexity so...

[12:38] Kickaha Wolfenhaut: If aliens landed on the White House lawn, the authorities would be in denial.

[12:38] Sian Andel: life of some sort is likely to persist everywhere it can - viz extremophiles. But intelligent life takes a v. long time to evolve and short time to destroy itself and distances so vast that meeting ET intel life unlikely

[12:38] Martin Pattle: (I don't believe Dolphins are intelligent: maybe a topic for another meeting)

[12:39] Becka Finesmith: So now we have to define intelligence too

[12:39] Nexie Raviprakash: the answer will be boring

[12:39] Robert Daguerre: I agree Martin, anyone who plays American Football has to be suspicious.

[12:39] Hennamono Morpork: I think dolphins are differently intelligent

[12:39] Becka Finesmith: lol

[12:39] Minnie Atlass: define intelligence....that's a whole topic

[12:39] Lambchop Magic: I think if intelligent life landed on Earth we would try to destroy it

[12:39] Nexie Raviprakash: humans

[12:39] Hennamono Morpork: Why is our intelligence the best model?

[12:40] Kickaha Wolfenhaut: I might define intelligence as mucking about in the water having a good time rather than fighting wars.

[12:40] You: I agree Lambchop we'd be scared

[12:40] Nexie Raviprakash: top of the food chain

[12:40] Minnie Atlass: definitely not

[12:40] Hennamono Morpork: I'm with Kick!!!

[12:40] Kickaha Wolfenhaut: And I'm with Doug.

[12:40] Martin Pattle: (looks like we have another topic)

[12:40] Darius Foss: I agree with Sian we may not have the time to meet with other intelligences we might just destroy ourselves before that could happen

[12:40] Hennamono Morpork: I know the source :-)

[12:40] Minnie Atlass: yep

[12:40] Becka Finesmith: So we are unlikely to find intelligent beings outside of a group :)

[12:40] Sian Andel: At the zoo I saw a female gorilla and a human baby 'talking' with animated face and gestures through glass for 10 minutes. When the parents tried to join in the gorilla moved away

[12:41] Nexie Raviprakash: animal nstinct
[12:41] Minnie Atlass: hey? becka
[12:41] Becka Finesmith: As we grow then we lose our ability to communicate?
[12:41] Nexie Raviprakash: no
[12:41] Becka Finesmith: HI Minnie
[12:41] Minnie Atlass: hiya
[12:41] Martin Pattle pokes Groovy
[12:42] Becka Finesmith: OK - And to the final question.....
[12:42] Darius Foss: Look, we cant even "talk" to our nearest animal relatives, but perhaps we are going the wrong way like Sian suggests
[12:42] Sian Anandel: or our ability to consider those unlike ourselves worthy of communication
[12:42] Robert Daguerre: The popular people's front?
[12:42] Hennamono Morpork: My cats are always talking to me

**If life were found to be
present now, should we
abandon plans to colonise or
terraform Mars?**

[12:42] Becka Finesmith: If life where found to be present now, should we abandon plans to colonise or terraform Mars?

[12:42] Nexie Raviprakash: no
[12:42] Martin Pattle: We've been trying very hard to talk to higher apes and dolphins. Pretty lousy results so far
[12:42] Hennamono Morpork: Is it their fault I don't understand?
[12:42] Nexie Raviprakash: but im not relocating
[12:42] Becka Finesmith: lol
[12:43] Minnie Atlass: leave them alone...me thinks
[12:43] Daisy Greggan: I think Carl Sagan said the the "window" for communication with other extra-Solar intellegences is quite limited
[12:43] Sian Anandel: colonise maybe - terraforming tempting but unethical
[12:43] Hennamono Morpork: We'd have to leave Mars a bit at least until we'd studied things further
[12:43] Becka Finesmith: This was a story in a SciFi book I read once about us invading another planet unintentionally
[12:43] Kickaha Wolfenhaut: Carl sagan also described the Bayaux Tapestry as a newspaper.
[12:43] Martin Pattle: I would have no problem colonicing or terraforming Mars, if it could be done
[12:43] Lambchop Magic: terraforming no as this would probably kill the life we found

[12:43] Daisy Greggan: No we should go there pronto

[12:43] Sian Anel: that's where i heard it - either Carl Sagan or Patrick Moore or both

[12:44] Deanna Minotaur: We can barely manage a space station at present so plans to colonise or terraform mars would be many years away

[12:44] Nexie Raviprakash: i would have to be brave to go there

[12:44] Robert Daguerre: To terraform Mars - hundreds of years away, possibly more.

[12:44] Hennamono Morpork: If there was life terraforming would kill it and we can't even bring ourselves to wipe out Small Pox

[12:44] Nexie Raviprakash: might not bother

[12:44] Sian Anel: Robert Heinlein- Johnny Appleseed terraforming Mars?

[12:44] Darius Foss: The microbes in the Apollo Missions camera survived the trip to the moon and back we may have already contaminated Mars

[12:45] Nexie Raviprakash: agree hennamono

[12:45] Kickaha Wolfenhaut: Partick Moore said (and I agree) that if you plant the idea of realistic terraforming in the public consciousness, it just relieves people of their obligations to looking after Earth.

[12:45] Becka Finesmith: Do you think Humans would claim it as there own or have we learned from our attempts to "populate and educate" on our own planet

[12:45] Minnie Atlass: just about to say that Kicks

[12:45] Robert Daguerre: Of course we would. But I don't see a problem with that.

[12:45] Nexie Raviprakash: the populaton is going to be a problem

[12:45] Lambchop Magic: No I think we would claim it as ours, mankind is greedy

[12:45] Robert Daguerre: There are no intelligent beings there.

[12:45] Becka Finesmith: Daruis - This is true

[12:46] Kickaha Wolfenhaut: They used to say that about Africa.

[12:46] Minnie Atlass: population is a problem now

[12:46] Sian Anel: We never learn not to grab territory - i remmebr being shocked when a US ratehr than world flag was opened on the moon.

[12:46] Hennamono Morpork: We aren't doing a good job of keeping Antarcitics clean

[12:46] Lambchop Magic: Intelligence as we know it

[12:46] Deanna Minotaur: Mankind wants to survive - this is not greedy

[12:46] Darius Foss: And it's greed will eventually lead to its downfall, I think

[12:46] Kickaha Wolfenhaut: Antarctica is a disgrace, and that's where we're making a supreme effort, lol

[12:46] Nexie Raviprakash: we could live underground

[12:46] Minnie Atlass: no its in our genes

[12:46] Becka Finesmith: No Intelligence of course Rob but even if there where microbes, would it be right for us to colonise?

[12:47] Hennamono Morpork: Legrangian points?

[12:47] Kickaha Wolfenhaut: Prime Directive stuff.

[12:47] Martin Pattle: Yes, wade in

[12:47] Sian Anel: t is wrong htough to assume that our surivvial takes precedence over other species

[12:47] Becka Finesmith: What about Legrangian Points Hennamoo?

[12:47] Robert Daguerre: Why say it is not ok to terraform another planet because it is iunhabited by miocrobes, and then go home and eat roast cow?

[12:47] Kickaha Wolfenhaut: I guess we're lucky nobody in a passing space ship thought that about Earth a few milliom years ago.

[12:47] Minnie Atlass: our survival is our species survival

[12:47] Deanna Minotaur: well I think it is pretty tough for us not to assume that

[12:47] Nexie Raviprakash: who would lve there?

[12:47] Hennamono Morpork: Celestial elevators building a ringworld?

[12:47] Nexie Raviprakash: crminals?

[12:48] Nexie Raviprakash: scientists?

[12:48] Becka Finesmith: I'm a vegetarian

[12:48] Becka Finesmith: :)

[12:48] Daisy Greggan: No you and I might think that but human greed knows no bounds

[12:48] Kickaha Wolfenhaut: New Australia, lol

[12:48] Nexie Raviprakash: lol

[12:48] Becka Finesmith: but you could have the same argument for lettuce

[12:48] Hennamono Morpork: By the time we're in space will we want to live in gravity wells

[12:48] Robert Daguerre: Well even vegatables are a higher life form than microbes :D

[12:48] Hennamono Morpork: They are hard to escape

[12:48] Minnie Atlass: i think we're fairly altruistic as a species

[12:48] Darius Foss: You sound like an old style Marxist, Daisy *laughs*

[12:48] Darius Foss: and I should know

[12:49] Nexie Raviprakash: i wouldnt want to livee on mars maby they left cos it was boring

[12:49] Kickaha Wolfenhaut: Which just goes to show how silly it is to base your behaviour on your rating of another life form.

[12:49] Becka Finesmith: lol

[12:49] Minnie Atlass: u can talk kicks...lol

[12:49] Robert Daguerre: Yeah, but why would we worry about colonising Mars because there is the possibility of microbial life there, when we eat lifeforms here?

[12:49] Nexie Raviprakash: wonder if its thee abilty to think

[12:49] Becka Finesmith: But what about cross cantamination and finding something lethal to the human race>?

[12:50] Nexie Raviprakash: yes becc

[12:50] Martin Pattle: That seems unlikely Becka

[12:50] Nexie Raviprakash: i have concerns about that

[12:50] Lambchop Magic: exactly Becka

[12:50] Nexie Raviprakash: why unlikely

[12:50] Daisy Greggan: I think terra-forming is still in the realms of Sci-Fi and we are too soon for that

[12:50] Becka Finesmith: Why would this be unlikely?

[12:50] Kickaha Wolfenhaut: Because like it or not there is a difference between harvesting for food and wiping a species out. It's not very cuddly, I know, and I'm not 100% comfortable with it, but there is a difference.

[12:50] Minnie Atlass: we won't need to colonise other planets when we've cracked nuclear fusion

[12:50] Hennamono Morpork: I don't believe in a risk from alien bugs when disease struggles to cross the gap between related species

[12:50] Martin Pattle: The life forms there are unlikely to have ways of using terrestrial life

[12:51] Plockton Scaggs: Goodnight everybody

[12:51] Ouro Uladstron: Take care.

[12:51] Eshala Tabacznyk: bye Plockton

[12:51] Becka Finesmith: nIght Plockton - Thanks for coming

[12:51] Nexie Raviprakash: goodnight plocky

[12:51] Robert Daguerre: Who said anything about wiping a species out, Kick? Bacteria will be still around for billions of years after we are gone.

[12:51] Nexie Raviprakash: xacto

[12:51] Robert Daguerre: tc Plockton

[12:51] Darius Foss: Minnie what will happen to the population of Earth, when it reaches critical?

[12:51] Lambchop Magic: bye

[12:51] Nexie Raviprakash: and before

[12:51] Robert Daguerre: It's more likely they would wipe us out!

[12:51] Nexie Raviprakash: lack of resources

[12:52] Kickaha Wolfenhaut: Martian bacteria?

[12:52] Martin Pattle: On earth, I think we are going to see some critical problems over water supply in this century

[12:52] Minnie Atlass: well that's a chance we're gonna have to take..d'you know we have less than 50 years of oil left

[12:52] Aseret Quintessa is Offline

[12:52] Sian Aniel: The worry with Mars would be that we would contaminate or destroy the scientific evidence, at least, and before we knew what we'd destroyed. We would be outside the ecological system, with advanced tools, so it would be immoral. I also believe it is immoral to eat Earth animals, for the same reasons - we have moved ourselves outside the eco balance

[12:52] Robert Daguerre: Yeah, there is more chance they would cause us harm than the other way around.

[12:52] Nexie Raviprakash: might be a strain we know off

[12:52] Hennamono Morpork: Well need to go space for resources - but mining the asteroids is easier than getting them from another planet

[12:52] Nexie Raviprakash: gloves on

[12:52] Robert Daguerre: Agree Martin. And food, and resources generally.

[12:52] Minnie Atlass: food isn't the imminent problem.....its energy

[12:53] Nexie Raviprakash: food is energy

[12:53] Robert Daguerre: Food is becoming a problem.

[12:53] Darius Foss: Ah Minnie I do not eat oil so if I can sustainance farm I might survive?

[12:53] Minnie Atlass: lol

[12:53] Martin Pattle: There is a huge energy input into western agriculture in chemical fertilisation etc.

[12:53] Nexie Raviprakash: we may learn to molecular construct it

[12:53] Robert Daguerre: Though that's more due to how it's distributed, but we will reach a point where the Earth just can not support the population.

[12:53] Hennamono Morpork: Energy is a problem either way - plentiful power produces heat pollution

[12:54] Robert Daguerre: Agree Martin.

[12:54] Becka Finesmith: Perhaps we can eat the Martians and solve the world food shortage?

[12:54] Nexie Raviprakash: already they have ability to grow cultures

[12:54] Robert Daguerre: lol becka

[12:54] Deanna Minotaur: lol Becka

[12:54] Eshala Tabacnyk: lol Becka

[12:54] Eshala Tabacnyk: well that's sorted then!

[12:54] Martin Pattle: This has been good Becka

[12:54] Martin Pattle: Can we have three cheers for Becka please!!!!

[12:54] Robert Daguerre: Yay!!!!!!!!!!!!

[12:54] Eshala Tabacnyk: hip hip

[12:54] Nexie Raviprakash: think that's possible what the clone plan is about

[12:54] Martin Pattle: Yippee!!!!

[12:54] Hennamono Morpork: Hurrah

[12:54] You: hip hip hooray

[12:54] Deanna Minotaur: hooray!

[12:55] Eshala Tabacnyk: hooray

[12:55] Robert Daguerre: Hooray!

[12:55] Becka Finesmith: lol - No - I've deliberately kept quiet as it's your evening.

[12:55] Sian Andel: hip hip hooray!

[12:55] Becka Finesmith: Thanks you

[12:55] DaveE Heliosense: hooray! Great!

[12:55] Ouro Uladstron: Thank you Becka.

[12:55] Nexie Raviprakash: hooray

[12:55] Becka Finesmith: So it is the end of the hour.

[12:55] Becka Finesmith: But....

[12:55] Lambchop Magic: Brilliant

[12:55] Martin Pattle: You did all the displays too Becka, I hope everyone knows that

[12:55] Martin Pattle: displays

[12:55] Hennamono Morpork: It went so quickly

[12:55] You: Much appreciated

[12:55] Becka Finesmith: Martin is about to send a landmark out to the group to Mars

[12:55] DaveE Heliosense: Thanks for your hardwork, Becka.

[12:55] Darius Foss: Suppose they eat us, I mean we return an innocent sample and the bacteria in it go crazy, all this food they say, and wipe out life on earth, well replace it really

[12:55] Becka Finesmith: We can all go and be the first lifeforms (probably)

[12:55] Robert Daguerre: Thank you Becka :-)

[12:55] You: cool

[12:55] Martin Pattle: (need a copy Becka)

[12:56] Nexie Raviprakash: ive been

[12:56] Kickaha Wolfenhaut: I am all worried now... that this impossible Martian bacteria will get me in my sleep.

[12:56] Robert Daguerre: LOL

[12:56] Eshala Tabacznyk: wow - what did Mars do to deserve us lot descending upon it?!?!

[12:56] Nexie Raviprakash: it mght already be here kick

[12:56] Becka Finesmith: There ya go

[12:56] Robert Daguerre: It has real estate.

[12:56] Minnie Atlass: something else will kill u first.....lol

[12:56] Becka Finesmith: OK - before we go - Suggestions for improvements or other topics?

[12:56] Nexie Raviprakash: that was fun

[12:56] Daisy Greggan: Oh we will trash it just like we are trashing Earth

[12:56] Becka Finesmith: yay!

[12:57] Nexie Raviprakash: topics

[12:57] Minnie Atlass: think i gave u one.....intelligence what is it?

[12:57] Nexie Raviprakash: life after death

[12:57] Kickaha Wolfenhaut: Can we have a suggestion box or e-mail address for that Becka?

[12:57] Sian Andel: i'd like to understand more about geology...

[12:57] Hennamono Morpork: Will someone be postind a transcript so we can read it again without skipping bits?

[12:57] Becka Finesmith: Tell ya what - If anyone has any ideas about future topics of how this could be improved (lots of scope) please email me

[12:57] Robert Daguerre: Yeah I'm sure I missed some stuff too Henn.

[12:57] Darius Foss: Yes ther is an OU course on "Robotics and waht it means to be Human"

The group was followed by a trip to the Mars Sim at the ISM and on to the ISM exhibition in general.

